

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



549254

(43) International Publication Date  
23 September 2004 (23.09.2004)

PCT

(10) International Publication Number  
**WO 2004/081412 A1**

(51) International Patent Classification<sup>7</sup>: **F16H 3/14**, 63/30

(21) International Application Number:

PCT/NL2004/000180

(22) International Filing Date: 12 March 2004 (12.03.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1022934

14 March 2003 (14.03.2003) NL

(71) Applicant (for all designated States except US): **AB SKF**  
[SE/SE]; Hornsgatan 1, S-415 50 Goteborg (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KAPPAAN, Hendrikus, Jan** [NL/NL]; Waterhoen 5, NL-3435 DM Nieuwegein (NL). **ZWARTS, Jacobus** [NL/NL]; Carmenlaan 5, NL-3438 VA Nieuwegein (NL). **VISSERS,**

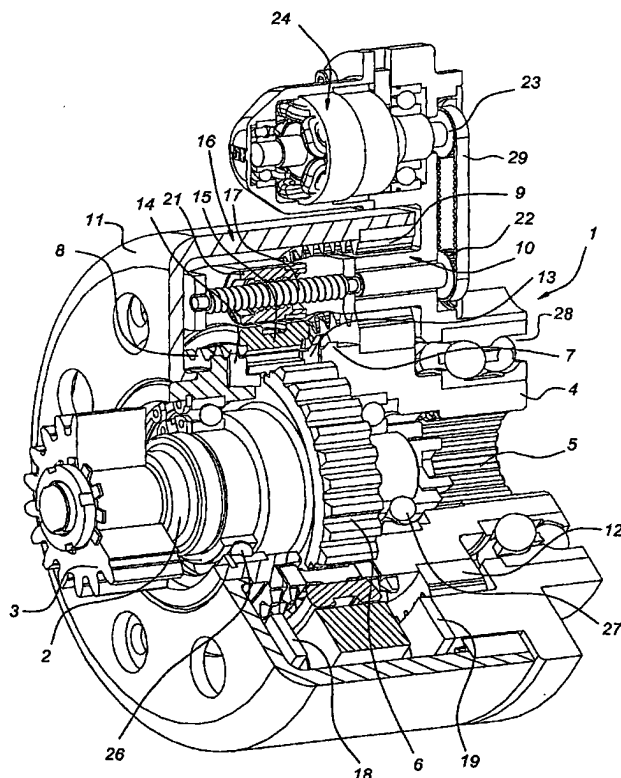
**Cornelius, Petrus, Antonius** [NL/NL]; Litsersstraat 67, NL-5275 BT Den Dungen (NL). **EYRAUD, Emmanuel, Jacques** [NL/NL]; Schakelstede 70, NL-3431 HG Nieuwegein (NL).

(74) Agents: **VAN WESTENBRUGGE, Andries et al.**; Nederlandsch Octrooibureau, Scheveningseweg 82, P.O. Box 29720, NL-2502 LS The Hague (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

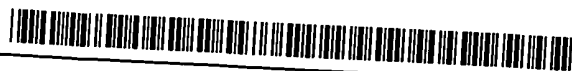
[Continued on next page]

(54) Title: FORWARD-REVERSE CONTROL DEVICE



(57) Abstract: A forward-reverse control device comprises a housing (1), a rotatable input member (4), a rotatable output member (2), a gear set (10) for reversing the input rotation, as well as selector means (6-8, 15) for selectively connecting the input member (4) and the output member (2) directly or through the gear set (10), characterized in that the selector means (6-8, 15) are driveable by means of and electric actuator (16, 17, 21-24).

WO 2004/081412 A1



(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**Published:**

— with international search report